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On the Mesostigmatid Mites Associated with the Cerambycid
Beetle, *Monochamus alternatus* Hope (II)

With 1 Text-figure

Kazuo ISHIKAWA

Biological Laboratory, Matsuyama Shinonome Junior College,
Matsuyama, Ehime 790, Japan

ABSTRACT Three species of mesostigmatid mites associated with *Monochamus alternatus* are dealt with in this paper: *Ameroseius matsudai* sp. nov., *Lasioseius sugawarai* and *Proctolaelaps hystrix*.

The new *Ameroseius*, described from Shikoku, is very similar to *A. ulmi*, with which it was previously identified.

For several years, damage of pine trees caused by pine nematods, which are dispersed by the cerambycid beetle, *Monochamus alternatus*, become rapidly serious in the western part of Japan. As natural enemies of the nematods, the author (1977, pp. 99–104) already reported two species of *Dendrolaelaps*: *D. unispinatus* and *D. fukikoeae*. In the present paper, he is going to deal with three other mesostigmatid mites of the same nature: *Ameroseius matsudai* sp. nov., *Lasioseius sugawarai* Ehara and *Proctolaelaps hystrix* (Vitzthum). The habitats of these mites are always closely connected with the cerambycid beetle and its galleries. The new species and *Proctolaelaps hystrix* have never been found until now from litter layer of the soil, in spite of careful investigations made by the present author. The type-series of the new species and other materials are deposited in the collection of the Biological Laboratory, Matsuyama Shinonome Junior College, Matsuyama.

Ameroseius matsudai sp. nov.

[Japanese name: Matsuda Kazaridani]

(Fig. 1)

Type-series. Holotype (MSJC-BL 138): ♀, ex *Monochamus alternatus*, Sugeta, Ōzu City, Ehime Pref., 3–VII–1976, M. Matsuda leg. Paratypes: 6 ♀♀, the same data as holotype.

Female. Length of dorsal shield with a range of 362–385 μ , av. 380 μ ; width at the level of coxae IV with a range of 220–269 μ , av. 247 μ .

Dorsum. Dorsal shield with a heavily sclerotized pattern of depression, irregular lateral and posterior margins, and provided with twenty-nine pair of pilose setae, some of which are leaf-like. Length of setae: verticals $25.6\ \mu$, $j2\ 25.0\ \mu$, $J2\ 33.3\ \mu$, $J5\ 51.3\ \mu$, $s1\ 18.0\ \mu$ and humerals $38.5\ \mu$. The distribution and relative lengths of the setae as shown in Fig. 1.

Venter. Tritosternal base about twice the length of tritosternal laciniae. Sternal shield lightly reticulated, and provided with two pair of simple setae. Metasternal shields free, with sternal setae III. Sternal setae IV lying on interscutal membrane located near the anterior angles of epigynial shield, which is narrow, posteriorly rounded and bears a pair of simple setae. Anal shield wider than long, lightly reticulated, granulated in its posterior area and bearing three perianal setae.

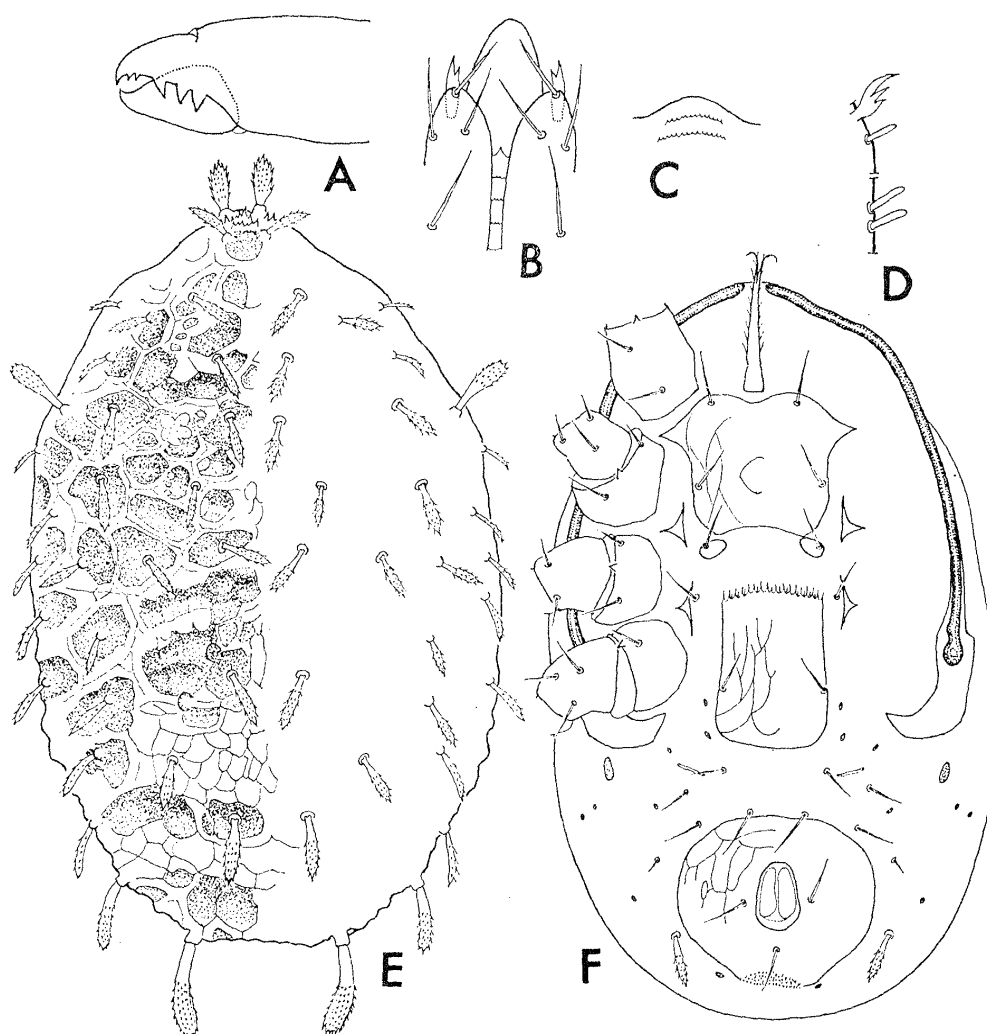


Fig. 1. *Ameroseius matsudai* sp. nov., female.—A, Chelicera; B, venter of gnathosoma; C, epistome; D, inner palpal setae of pedipalp; E, dorsum; F, venter.

Interscutal membrane posterior to epigynial shield with a pair of metapodal shields and nine pair of platelets. Five pair of setae on integument posterior to epigynial shield, posterior ones of which are long and pilose. Stigmata located outside of coxae IV; peritremes extending beyond coxae I, with well developed peritrematal shields.

Gnathosoma. Epistome unipartite, broad, triangular, with smooth margin. Pedipalp composed of five segments; palpal apotele on palpal tarsus three-tined; two internal setae of genu and one internal seta of femur spatulate distally. Fixed digit of chelicera provided with three large and two small teeth, while movable digit ($23.1\ \mu$) is edentate. Corniculus with two tines distally. All hypostomal setae are simple.

Legs. Tarsus I ($105.0\ \mu$) much longer than tibia I ($51.3\ \mu$). Each tarsus with small claws and pulvilli, median lobes of pulvilli rounded apico-distally. Setae on legs mostly serrated. Length of leg I $361\ \mu$, II $302\ \mu$, III $295\ \mu$ and IV $389\ \mu$.

Male. Unknown.

Notes. The present species is readily distinguished from *Ameroseius ulmi* Hirschmann, 1963, from Germany, by the following features: ventral setae *V7* present; interscutal membrane posterior to epigynial shield provided with nine pair of platelets instead of six.

Lasioseius sugawarai Ehara

[Japanese name: Kazari Mayoidani]

Lasioseius sugawarai Ehara, 1964, J. Fac. Sci. Hokkaido Univ., (VI-Zool.), **15**: 390–391.—Ishikawa, 1969, Rept. Res. Matsuyama Shinonome Junior Coll., **4**: 116.

Specimens examined. 5 ♀♀, ex *Monochamus alternatus*, Tateyama, Chiba Pref., 5–VI–1974, N. Enda leg.; 16 ♀♀, ex *Monochamus alternatus*, Choseigun, Chiba Pref., 22–VI–1974, N. Enda leg.; 3 ♀♀, ex *Monochamus alternatus*, Ikata, Nishiuwa, Ehime Pref., 9–VII–1976, M. Matsuda leg.

Notes. According to Ehara, the type material of *Lasioseius sugawarai* was collected on strawberries in Iwate Prefecture. Since then, the author has collected it from litter layer in various districts of Japan, and also on the surface of pine trees in Matsuyama, in February of 1977. Therefore, this mite seems to have a wide range of habitats.

Proctolaelaps hystrix (Vitzthum)

[Japanese name: Uroko Haridani]

Lasioseius (Lasioseius) hystrix Vitzthum, 1923, Arch. Naturg., **89A**: 105–108.

Lasioseius hystrix: Willmann, 1956, Čsl. Parasit., **3**: 223.

Proctolaelaps (Proctolaelaps) hystrix: Evans, 1958, Proc. zool. Soc. Lond., **131**: 198, 200–201.

Proctolaelaps hystrix: Athias-Henriot, 1959, Bull. Soc. Hist. nat. Afr. N., **50**: 170.—Samšinák, 1960, Čsl. Parasit., **7**: 299–300, 306.—Hirschmann, 1962, Acarologie Schr.-Reihe vergl. Milbenk., Teil 5: 40–41.—Lindquist & Hunter, 1965, Canad. Ent., **97**: 20–22.—McGraw

& Farrier, 1969, North Carolina Agr. Exptl. Sta. Tech. Bull., (192): 85–89.

Garmania hystrix: Westerboer, 1963, Beitr. Syst. Ökol. Mitteleurop., Acarina 2, Mesostig. 1: 278, 430.

Specimens examined. 2 ♀♀, ex *Monochamus alternatus*, Ikata, Nishiuwa, Ehime Pref., 18–VI–1976, M. Matsuda leg.; 13 ♀♀, ex *Monochamus alternatus*, Sugeta, Ôzu, Ehime Pref., 23–VI–1976, M. Matsuda leg.; 7 ♀♀, ex *Monochamus alternatus*, Sugeta, Ôzu, Ehime Pref., 3–VII–1976, M. Matsuda leg.

Notes. This species was originally described by Vitzthum from galleries of *Dendroctonus micans* (Kugelann) and *Hylastes ater* (Paykull) in Austria. Later, this species was recorded on bark beetles and their galleries from Poland, Germany and the United States. It is found for the first time in Japan.

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